1. **(Withdrawn)** A method for identifying genes responsible for high titer antibody production comprising: (a) inactivating mismatch repair of said antibody-producing cells, thereby forming hypermutable cells, (b) screening said hypermutable cells for cells that produce higher titers of antibody as compared to said antibody-producing cells, and (c) analyzing the genomes of said antibody-producing cells and said hypermutable cells, thereby identifying genes responsible for high titer antibody production.

2. **(Withdrawn)** The method of claim 1 wherein said antibody-producing cell produces intact antibodies.

3. **(Withdrawn)** The method of claim 1 wherein said antibody-producing cell comprises endogenous immunoglobulin genes.

4. **(Withdrawn)** The method of claim 1 wherein said antibody-producing cell comprises exogenous immunoglobulin genes.

5. **(Withdrawn)** The method of claim 1 wherein said antibody-producing cell produces derivatives of immunoglobulin genes.

6. **(Withdrawn)** The method of claim 1 wherein said step of in activating mismatch repair comprises introducing into said antibody-producing cells a dominant negative allele of a mismatch repair gene.

7. **(Withdrawn)** The method of claim 1 wherein said step of in activating mismatch repair comprises knocking out at least one mismatch repair gene of said antibody-producing cells.

8. **(Withdrawn)** The method of claim 1 wherein said step of in activating mismatch repair comprises introducing an RNA interference molecule into said antibody-producing cells.

9. **(Withdrawn)** The method of claim 1 wherein said step of in activating mismatch repair comprises introducing an antisense molecule against a mismatch repair gene into said antibody-producing cells.

10. **(Withdrawn)** The method of claim 6 wherein said allele comprises a truncation mutation.

11. **(Withdrawn)** The method of claim 1 wherein the step of screening comprises analyzing a nucleotide sequence of the genome of said cells as compared to the genome of untreated cells.

12. **(Withdrawn)** The method of claim 1 wherein the step of screening comprises analyzing mRNA expression levels and structure from said cell as compared to untreated cells.

13. **(Withdrawn)** The method of claim 1 wherein the step of testing comprises analyzing protein from the said cell as compared to untreated cells.

14. **(Withdrawn)** The method of claim 1 wherein the step of screening comprises analyzing the phenotype of said gene.

15. **(Withdrawn)** The method of claim 1 wherein said antibody-producing cell is a mismatch repair defective fertilized egg of a non-human animal.

16. **(Withdrawn)** The method of claim 15 further comprising the step of implanting said fertilized egg into a pseudo-pregnant female, whereby said fertilized egg develops into a mature transgenic animal.

17. **(Withdrawn)** A homogeneous culture of high titer antibody producing cells produced by a method comprising the steps of: (a) inactivating mismatch repair of said antibody-producing cells, thereby forming hypermutable cells; (b) screening said hypermutable cells for cells that produce higher titers of antibody as compared to said antibody-producing cells; (c) culturing said hypermutable cells producing higher titers of antibody.

18. **(Withdrawn)** The culture of high titer antibody producing cells of claim 17 wherein the high titer antibody-producing cell is selected from the group consisting of a bacterial cell, a yeast cell, a plant cell, a mammalian cell, a mouse cell, a rat cell, a rabbit cell, a hamster cell, and a non-human primate cell.

19. **(Currently Amended)** A method for producing a high titer antibody producing cell comprising ~~the step of~~ modulating the expression of at least one gene involved in antibody production ~~wherein said genes comprise alphal-anti-trypsin and endothelial monocyte-activating polypeptide I~~.

20. **(Original)** The method of claim 19 wherein the cell is a hybridoma.

21. **(Original)** The method of claim 19 where in the cell is an epithelial cell.

22. **(Original)** The method of claim 19 where in the cell is ovarian.

23. **(Original)** The method of claim 19 where in the cell is a kidney cell.

24. **(Original)** The method of claim 19 where in the cell is a myeloid cell.

25. **(Original)** The method of claim 19 where in the cell is a lymphoid cell.

26. **(Currently Amended)** The method of claim 19 ~~whereby said step of~~ wherein the modulating comprises ~~suppression of~~ suppressing the expression of ~~said~~ the at least one genes ~~by introducing an antisense oligonucleotide directed against at least one of said endothelial monocyte-activating polypeptide I and alpha-1-anti-trypsin genes~~.

27. **(Currently Amended)** The method of claim ~~19~~ 26 ~~whereby said step of modulating~~ wherein the suppressing comprises ~~suppression of the expression of said genes by~~ introducing into the cell an expression vector comprising an antisense transcript ~~directed against~~ to ~~at least one of said~~ genes encoding endothelial monocyte-activating polypeptide I, ~~and~~ alpha-1-anti-trypsin, or both ~~genes~~.

28. **(Currently Amended)** The method of claim ~~19~~ 26 ~~whereby said step of modulating~~ wherein the suppressing comprises ~~suppression of the expression of said genes by~~ introducing into the cell a knock out targeting vector to disrupt the ~~endogenous~~ function of ~~at least one of said~~ genes encoding endothelial monocyte-activating polypeptide I, ~~and~~ alpha-1-anti-trypsin, or both ~~genes~~.

29. **(Currently Amended)** The method of claim ~~19~~ 26 ~~whereby said step of modulating~~ wherein the suppressing comprises ~~suppression of the expression of said genes by~~ introducing into the cell a ~~polynucleotide comprising a~~ ribozyme ~~directed against~~ ~~at least one of said~~ to cleave genes encoding endothelial monocyte-activating polypeptide I, ~~and~~ alpha-1-anti-trypsin, or both ~~genes~~.

30. **(Currently Amended)** The method of claim ~~19~~ 26 ~~whereby suppression is achieved by~~ wherein the suppressing comprises introducing antibodies into the cell ~~intracellular blocking antibodies~~, wherein the antibodies specifically bind to ~~against~~ the expression product of genes encoding ~~said~~ endothelial monocyte-activating polypeptide I, ~~and/or the~~ alpha-1-anti-trypsin, or both ~~gene~~.

31. **(Currently Amended)** The method of claim ~~29~~ 26 ~~whereby suppression is achieved by~~ wherein the suppressing comprises incubating the cells with a neutralizing antibody or ~~derivatives~~ antigen binding fragment thereof, wherein the antibody or antigen binding fragment thereof specifically binds to ~~directed against~~ the expression product of ~~said~~ genes encoding endothelial monocyte-activating polypeptide I, alpha-1-antitrypsin, or both that has been secreted into the growth medium of the cells.

32. **(Currently Amended)** A method of modulating antibody production ~~of cells~~ comprising contacting ~~said~~ antibody producing cells with at least one protease inhibitors ~~to~~ wherein the at least one protease inhibitor decreases antibody production ~~from antibody producer cells~~.

33. **(Currently Amended)** The method of claim ~~59~~ 32 wherein the at least one protease inhibitor comprises pharmacologically effective amounts of ~~natural~~ protease substrates.

34. **(Currently Amended)** The method of claim ~~59~~ 32 wherein ~~said~~ the at least one protease inhibitor is an ~~blocking~~ antibody that specifically binds to ~~natural~~ endogenous protease inhibitors.

35. **(Currently Amended)** The method of claim ~~59~~ 32 wherein the at least one protease inhibitor is an ~~blocking~~ antibody that specifically binds to alpha-1-anti-trypsin.

36. **(Withdrawn)** A method for selecting cells for high titer antibody production whereby growth medium of cells is analyzed for alpha-l-antitrypsin, where low levels are associated with high antibody titers.

37. **(Withdrawn)** The method of claim 36 wherein alpha-1-antitrypsin RNA, wherein low levels of RNA is associated with high antibody titers.

38. **(Withdrawn)** The method of claim 36 wherein alpha-1-antitrypsin protein, wherein low levels of RNA is associated with high antibody titers.

39. **(Withdrawn)** A method for selecting for cells for high titer antibody production whereby growth medium of cells is analyzed for endothelial monocyte-activating polypeptide I, where low levels are associated with high antibody titers.

40. **(Withdrawn)** The method of claim 39 wherein endothelial monocyte-activating polypeptide I RNA, wherein low levels of RNA is associated with high antibody titers.

41. **(Withdrawn)** The method of claim 39 wherein endothelial monocyte-activating polypeptide I protein, wherein low levels of RNA is associated with high antibody titers.

42. **(Currently Amended)** A method for suppressing antibody production in cells associated with hyperimmunoglobulin disease ~~production~~ comprising contacting said cells with at least one compound that increases endothelial monocyte-activating polypeptide I gene expression.

43. **(Currently Amended)** A method for suppressing antibody production in cells associated with hyperimmunoglobulin disease ~~production~~ comprising contacting said cells with at least one compound that increases alpha-1-antitrypsin gene expression.

44. **(Currently Amended)** A method for enhancing antibody production in cells associated with ~~hyporimmunoglobulin~~ hypoimmunoglobulin disease ~~production~~ comprising contacting said cells with at least one compound that suppresses alpha-1-anti-trypsin ~~expression~~ activity.

45. **(Cancelled)**

46. **(Cancelled)**

47. **(Currently Amended)** A method for enhancing antibody production associated with hyporimmunoglobulin disease production comprising contacting said cells with at least one compound that suppresses monocyte-activating polypeptide I expression activity.

48. **(Currently Amended)** The method of claim 47 wherein said compound decreases the activity of monocyte-activating polypeptide I protein in said cells.

49. **(Currently Amended)** The method of claim 47 wherein said compound decreases the level of monocyte-activating polypeptide I in said cells.

50. **(Withdrawn)** A host cell for the expression of antibody molecules or fragments thereof comprising a defect in the monocyte-activating polypeptide I gene such that expression of monocyte-activating polypeptide I is inhibited.

51. **(Withdrawn)** The host cell of claim 50 wherein said defect comprises a deletion of the monocyte-activating polypeptide I.

52. **(Withdrawn)** The host cell of claim 50 wherein said defect is a frameshift mutation in the monocyte-activating polypeptide I gene.

53. **(Withdrawn)** The host cell of claim 50 wherein said host cell comprises an expression vector comprising an antisense transcript of the monocyte-activating polypeptide I gene whereby expression of said antisense transcript suppresses the expression of the monocyte-activating polypeptide I gene.

54. **(Withdrawn)** The host cell of claim 50 wherein said host cell comprises a ribozyme that disrupts expression of the monocyte-activating polypeptide I gene.

55. **(Withdrawn)** The host cell of claim 50 wherein said host cell comprises an intracellular neutralizing antibody against the monocyte-activating polypeptide I protein whereby said antibody suppresses the activity of monocyte-activating polypeptide I.

56. **(Withdrawn)** A host cell for the expression of antibody molecules or fragments thereof comprising a defect in the alpha-l-antitrypsin gene such that expression of alpha-1-antitrypsin is inhibited.

57. **(Withdrawn)** The host cell of claim 56 wherein said defect comprises a deletion of the alpha-1-antitrypsin.

58. **(Withdrawn)** The host cell of claim 56 wherein said defect is a frameshift mutation in the alpha-1-antitrypsin gene.

59. **(Withdrawn)** The host cell of claim 56 wherein said host cell comprises an expression vector comprising an antisense transcript of the alpha-1-antitrypsin gene whereby expression of said antisense transcript suppresses the expression of the alpha-1-antitrypsin gene.

60. **(Withdrawn)** The host cell of claim 56 wherein said host cell comprises a ribozyme that disrupts expression of the alpha-1-antitrypsin gene.

61. **(Withdrawn)** The host cell of claim 56 wherein said host cell comprises an intracellular neutralizing antibody against the alpha-1-antitrypsin protein whereby said antibody suppresses the activity of alpha-1-antitrypsin.

62. **(Withdrawn)** The host cell of claim 61 further comprising an expression vector comprising a polynucleotide sequence encoding at least a portion of an antibody molecule.

63. **(Withdrawn)** The host cell of claim 61 wherein said polynucleotide encodes at least an immunoglobulin light chain or fragment thereof.

64. **(Withdrawn)** The host cell of claim 61 wherein said polynucleotide encodes at least an immunoglobulin heavy chain or fragment thereof.

65. **(Withdrawn)** The method of claim 1 further comprising the step of restabilizing the genome of selected high titer antibody-producing cells.

66. **(Withdrawn)** A culture of stable, high titer antibody-producing cells made by the method of claim 65.

67. (**New**) The method of claim 19, wherein the gene is alpha-1-antitrypsin or endothelial monocyte activating polypeptide I.

68. (**New**) The method of claim 26, wherein the suppressing comprises introducing into the cell an oligonucleotide antisense to the gene encoding alpha-1-antitrypsin, endothelial monocyte activating polypeptide I, or both.

69. (**New**) A method for enhancing antibody production in cells associated with hypoimmunoglobulin disease comprising contacting the cells with at least one compound that suppresses monocyte-activating polypeptide I activity.

70. (**New**) A method for enhancing antibody production in cells associated with hypoimmunoglobulin disease comprising contacting the cells with at least one compound that decreases the level of expressed alpha-1-antitryspin in the cells.

71. (**New**) The method of claim 32, wherein the antibody producing cells are hybridomas, epithelial cells, ovarian cells, kidney cells, myeloid cells, or lymphoid cells.